

## **SPECIAL NOTE**

### **PG BINDER AND MIX DESIGN LEVEL**

Requirements of this note apply to all Section 404 Asphalt Pavement items in this contract, except for shim, permeable base, temporary pavements, and miscellaneous, which may use non-modified PG binders such as PG 64S-22 and PG 64H-22.

### **PG BINDER**

Use polymer or Terminal Blend Crumb Rubber modified **PG 58E-34** (Extreme) meeting the requirements of AASHTO M 332, *Standard Specification for Performance Graded Asphalt Binder using Multiple Stress Creep Recovery (MSCR)*, for the production of asphalt mixtures for this project. In addition, the binder grade must also meet the **elastomeric** properties as indicated by one of the following equations for %R<sub>3.2</sub>:

1. For  $J_{nr3.2} \geq 0.1$ ,  $\%R_{3.2} > 29.371 * J_{nr3.2}^{-0.2633}$
2. For  $J_{nr3.2} < 0.1$ ,  $\%R_{3.2} > 55$

Where:

R<sub>3.2</sub> is % recovery at 3.2 kPa

J<sub>nr3.2</sub> is the average non-recoverable creep compliance at 3.2 kPa

When terminal blend CRM PG binder is used, the following shall apply:

- Crumb rubber particles shall be finer than #30 sieve size.
- The CRM PG binder shall be storage-stable and homogeneous.
- The Dynamic Shear Rheometer (DSR) shall be set at 2-mm gap.
- The CRM PG binder shall be 99% free of particles retained on the 600 µm sieve as tested in accordance with Section 5.4 of M 332.

Use of polyphosphoric acid (PPA) to modify the PG binder properties is prohibited for mixtures under this contract. This prohibition also applies to the use of PPA as a cross-linking agent for polymer modification.

### **MIX DESIGN**

The mixture designs must be developed in accordance with the criteria specified in the asphalt pavement items that are appropriate for the Mixture Design Level of **75 Gyration**s.

**Note:** The PG binder for this project will be modified with polymer or CRM additives to meet the requirements stated above. Handling of the asphalt mixture shall be discussed at pre-construction and pre-paving meetings.